

of them prisoners; among whom was my wife
the officer behind from the rifle ~~company~~ being
taken.

I saw Miss Disraeli, but could give no relief; for
after I was got through, I was in the enemy's rear
alone - I saw she had charged through with me went
on to Leeds. Thinking I had done so too. But I
stayed till I saw there was no more in my power,
to do but to be taken prisoner with them. I then
retired to Leeds.

"At Leeds, I found all in great destruction; the
Council of war newly risen, then it was resolved
to quit the town & retreat to Hull, which was 60
miles off, many of the enemy's garrisons being
in the way.

"We got well to Selby, where there was a ferry, & hardly
a garrison of the enemy at Camwood. My father being
a mile before with a few men, getting over the ferry,
word came to us that he was in danger, & he taken

"I started to him, & he was just got into the boat
when the enemy entered the town. I threw one
man upon the market place & recharged them.
Then I received a shot in the wrist from a man
which suddenly let out such a quantity of blood
that I was ready to fall from my horse; some men
seeing me ready to fall, laid me on the ground.
Now, when I was almost senseless, my surgeon
came aboard upon the sound & stopped the bleeding

"After a quarter of an hour's rest, I got upon horse
back again; some men had beaten the enemy
back to Camwood, the same way they came

"Thus, by the goodness of God, our passage was
made clear; some went over the ferry, after my father,
I myself, with others, sent through the levels to Hull, & so
it

18p32m39
it proved a very troublesome & dangerous passage,
being often interrupted by the enemy, sometimes
in our front, sometimes in our rear.

"I had been 20 hours on horseback after such exertions
without any rest or refreshment, & as many hours
before. And, to make it worse, my daughter, not
above five years old, being carried before her
maid, endured all this retreat on horse-back.
But, nature not being able to hold out any longer,
she fell into frequent swoonings, & in appearance
was ready to expire her last.

"Having now passed the Trent, & seeing a house not
far off, I sent her mother, with her maid only, in the
little hope of seeing her any more alive, though I
intended the next day to send a ship from
Kull for her.

"At last we got our men ashore on board ship, &
crossing the river, we arrived at Kull, our men
faint & tired. I myself, had lost all even to my
shirt, for my clothes were made unfit to wear
with rents all round. Presently after my coming
to Kull, I sent a ship for my daughter, who was
brought the next day to the town, pretty well
recovered of her long & tedious journey.

"Not many days after the earl of Newcastle sent
my wife back again in his coach, with some horse
to guard her. Which generous act of his gained
him more reputation than he could have got
by detaining a lady prisoner."

Memoirs of General Skipton

Bp32mc39

Low Moor Ironworks.

Yorkshire has neither gold mines nor silver mines, but it is rich in our English "Precious metal," the iron, superior above all metals, which has done so much towards England a great nation.

Iron is found in a stony dark coloured ore called ironstone, which is made up of iron, clay, & other earthy substances. It is often in beds, sometimes a few inches thick, & sometimes several feet. There are generally a great many beds or seams one beneath another separated by beds of the minerals, & there, in the south of Yorkshire ~~the~~ ^{and} is amongst the minerals found with the iron.

Below to Bradford as almost to form part of the town are the great Low Moor Ironworks, known all over the world for the great length & strength of their iron goods, - iron plates, bars, & rails for railway lines - the best in the world, which are sent to America, Africa, Egypt, India, Russia; wherever the strongest iron goods are wanted the Low Moor "brand" is known.

By night you may see the foundries glowing by the light of the huge blast furnaces blazing away like small volcanoes: and around the works you must seek your way over a wilderness of barren curdles & "slag" - the refuse of the furnaces - which, for nearly a century, has been collecting in hillocks over the place.

These great iron works rest upon the north west corner of the great coal field, where there is much ironstone lying in seams between the layers

goal.

The mines are worked very much as other mines are. Long underground galleries are dug, sometimes so narrow that a man has to lie flat to his work. The ore is blasted with gunpowder, & the men get it out with a pick-axe.

Sometimes the ore is roasted, to get rid of any volatile matter which will pass off as gas, before it is thrown into the blast-furnaces.

^{There is a furnace into the blast furnace.}
~~There are~~ huge ~~sluicing~~ buildings, made even to have great strength, & great power of resisting heat. They are always full of fiercely burning material, which is thrown in at the top as fast as it is drawn out at the bottom: the top is generally open, & for miles around & great bodies of flames may ^{often} be seen shooting up. Night & day, Sunday & week-day, ~~for there are~~ fires ~~which~~ ^{which} never grow out, & though work is not often done on Sundays, there must always be somebody to feed the furnaces. The iron-master could not afford to let out his fire which it would cost him £1000 to relight again.

At the bottom of the blast-furnace there is a deep square hearth, & all the hollow of the furnace above this hearth is filled with ore & coal. But if only iron ore & coal burned in the furnace, we should never get iron out.

It is a curious fact that certain substances have an affection, or what chemists call an affinity, for each other. The ore, as it is cast into the furnace, contains much clay along with the iron. The thing is, to separate the iron from the clay; & that is managed by throwing in another substance along with the coal & the ore, to which the clay has such an affinity, that

that it will leave the iron immediately within these new
substances, & leaving the iron pure.

Lime is the next useful substance; the limestone
used for this purpose in the Lanthorn works is
brought from the quarries above Shipton - no
great distance off.

When one it is filled. The furnace is kept roaring
blazing away, fresh coal & iron being
poured in at the top every hour, day & night.
The metal when it is melted, being heavier than
anything else in the furnace, sinks to the
square trough at the bottom.

Next here is this piece of iron kept up continually.
You know that when a fire gets low we make it
blaze up by sending a blast of air or wind upon
it with the bellows. Perhaps you don't know
that such a blast of air, on its way up the chimney,
is always blowing upon the fire to make it burn.
A tremendous blast of air is necessary to
keep these great blast furnaces burning
bright. So a steam engine works the large
bellows which blow the air in; & in order that
it may not come as a cold wind upon the hot iron,
this air passes through red hot pipes, so that it is
three times as hot as boiling water when it enters the
furnace.

When the melted iron has been flowing falling
into the square trough at the bottom of the furnace
for twelve hours, it is tapped & allowed to flow
out.

In front of the furnace is a flat space covered
with sand. A long channel, or hollow in the sand
is made down the middle of this space; this is called
the

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The Low: from each side of the low a hundred or more smaller channels, branch out; these are the pigs.

All being ready, the clay stopper to the hole at the bottom of the furnace is broken away, & the white-hot liquid metal pours forth in a stream, bubbling & hissing, taking all measures of beautiful colours, & filling the air with a cloud of fiery sparks.

Men stand about with long poles to turn the stream of liquid metal into one or another of the pig-moulds, until they & the low are all filled; & fiery bright & very beautiful the whole appearance is. The pigs soon grow solid, & are carried away from the moulds while they are yet hot.

The Foundry

This is pig-iron, which, to make fire-grates, & railings, stoves, & a thousand other things, is just once more melted in a furnace; & then the liquid metal is poured into a mould, a hollow clay shape of the exact-pattern of the article that is to be made. This is called casting, & all goods which do not require either great strength or great beauty are made of cast iron. Look at an iron fence or fire-grate, you will generally find that the edges of the patterns are round & dull, not fine & sharp; a proof that the article has been cast in a mould, not wrought with hand & hammer.

But if the iron is to be brought to the forge to be made very close & strong, or to be wrought into delicate patterns, it has much to go through; yet the pig-iron is brittle, & will not bear the hammer.

hammers.

The 'pigs' are broken into pieces, put into the puddling furnace, where the brittle iron becomes malleable, that is, able to bear the hammer, & ductile, that is, capable of being drawn out into thin wire if need be. The puddling furnace is one in which the plain sheet are cast down, "reverberated" from an arched roof.

The 'puddler' is a kind of salamander able to bear any heat. Naked to the waist, he watches the iron as it begins to melt through a hole in the furnace. Stirring the pieces about with a long iron rod, which he is obliged to change for a cold one every few minutes or even the rod would melt. When the metal is melted, the puddler keeps the mass constantly stirred, & under the stirring, the fluid becomes thickened, & gradually separates into lumps. These, with two iron rods, he works into one big ball, or bloom, as it is called. Thence the fiery ball of iron is lifted out of the furnace, & passes from one workman to another quick as thought. & ^{especially at night, the work is extremely} change of ^{the} ~~the~~ dark figures

off on Sporting, as it were, with the huge ball of fire.

The bloom is flattened under an enormous hammer, then pressed out further under free-rollers, until it is brought to the shape & size required. This rolling is very hard work, as the sheet of iron must be made red-hot between each rolling: and the men may be seen, bathed in perspiration, carrying a sheet of red-hot iron, two or three yards square, from the furnace.

If the iron sheet or bar is not just the right size

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after the rolling, the edges are clipped with a pair of guillotines shears; it is a curious sight to see iron cut through as if it were no more than pretty stiff paper.

The iron is now ready for the forge when it is shaped & hammered upon the anvil into whatever form of wrought-iron goods is to be produced.

It is for the excellence of their wrought-iron goods that the Low Moor Ironworks are, as it were, famous all over the world. About 10,000 men are employed in these great works.

The Bowling Ironworks, also adjoining Bradford are like those of Low Moor, only on a smaller scale.

The Clothing Towns. Halifax.

We have no space to speak of the dozens of the dozens of smaller towns & clothing villages which gather round Leeds & Bradford, the two great centres.

Passing over the long backs of our bar hill after another is being carried through the hearts of the hills by means of railway tunnels, we come upon a town which stands in a valley shaped exactly like a deep basin with bar hills ^{with steep sides for miles round the town} steep hills shutting it in on all sides. This is Halifax. The third in importance of the West-Riding clothing towns.

Many tall chimneys rise out of the valley, & streets on the hill sides. For the Halifax manufacturing carry on their works with great spirit, & there are worsted & woollen factories, as well as cotton mills, scattered through the length & breadth of this large parish which extends as far as Todmorden.

25

One curious branch of Mexican trade is that with South America, the mill-owners having learned long ago how to cater for the tastes of the South American Indians. The manufactures of the town are very various & interesting, - materials for curtains, table-covers, dresses, &c.; shields, Messers, brooches, &c. The largest mill in the town, is a great carpet factory, which employs more than 3,000 hands. It is very interesting to watch the close action of the loom which produces the sort of loop which covers the surface of 'Brussels' carpet; ~~the~~ ^{the} cutting of what may be called the 'shearing' of the carpet known as 'velvet pile'. All kinds of carpets are made here.

Before the use of machinery in factories became general, Salix was the centre of the Yorkshire woolen works. In early days, the wool from English sheep was bought at a high rate by the merchants of Flanders, for no other wool was so much esteemed by the clothiers. But English-made clothes & shoppes were as much despised as English wool was esteemed. No gentleman at home or abroad would clothe himself in the rough cloth of the island which was left for the wear of the peasants & poorer sort of townsfolk. On another English king noted this fact, & though it is a pity that England should lose the chief profit of its excellent wools in sending them to the looms of Flanders to be made up. And William the Conqueror, Edward I., Edward II., Henry VII., ^{Edward VI.} Elizabeth I. were amongst the monarchs who would summon weavers to settle in various parts of England.

It is said that to Edward III. Salix owed its early prosperity. He showed himself friendly to the

18 pto cm 34

Handsome manners, made them successful,
business which he certainly did his best to
keep by degrees, got among families & soon
settled in certain of his English towns.

Halifax was one of these towns.
The Engl. was very a little inclined at first
to be jealous of these foreigners & did not
always treat them well. But says an old writer,
"Happy the german's home into which one of these
Dutchmen did enter, bringing industry & wealth
along with them. Such no more in strangers
within doors, soon after went out. Budegroomen
returned soon in. saw, having married the daughter
of their landlords who first entertained them;
yes, these of german in those houses they harboured

soon became gentlemen, forming estates to
themselves. ^{It is said that within day, the somewhat}
^{"peculiar dialect of the} Halifax folk pointed to this
^{time in origin} as no longer need foreigners to teach us the secrets

of the wool-craft, but it is a curious fact that
there are at this day, a great many foreigners
german merchants for the most part settled
in the large old thing towns.

Halifax is ~~rather~~ presents a rather handsome
appearance as a town, because it is built of
brown freestone got from quarries near.
at hand. It has a fine old parish church
parts of which claim to belong to ancient days;
& a ~~very~~ beautiful new church, built by Sir
Gilbert Scott one of the most celebrated of modern
architects. ~~entirely at the expense of a wealthy~~
~~manufactures of the town.~~ Amongst its

public buildings is a handsome town-hall
bright with gilding, & a large piece hall, where the
trade of Halifax used to be carried on. Now
most the pieces (of stuff or cloth) are carried to
Bridgford